

Observations of Gale's Comet (b 1894) made at the Royal Observatory, Greenwich.
(Communicated by the Astronomer Royal.)

The observations were made with the East, or Sheepshanks, equatorial, aperture 6·7 inches, by taking transits over two cross-wires at right angles to each other, and each inclined 45° to the parallel of declination. Magnifying power 55.

Greenwich Mean Solar Time.			Observer.	*—*R.A.		Corr. for Refraction.	Log factor of Parallax.	*—*N.P.D.		Corr. for Refraction.	Log factor of Parallax.	No. of Comps.	Apparent R.A.		Apparent N.P.D.		Comp. Star.
d	h	m		m	s			'	"				h	m	s	°	'
1894. May	12	9 48 26	C.D.	—0	39·40	0·00	9·4993	+ 0 33·2	0·0	0·0	0·7261	5	...	...	...	...	a
	12	11 57 7	"	+0	47·99	0·00	9·5933	— 3 46·2	—0·3	0·0	0·8001	2	9 37	27·97	69 29	9·8	b
	17	9 21 20	"	+0	36·92	0·00	9·4657	+ 2 27·1	0·0	0·0	0·6225	7	10 6	12·35	61 40	23·8	c
	17	9 22 32	B.	+0	36·51	0·00	9·4684	+ 2 24·1	0·0	0·0	0·6234	3	10 6	11·94	61 40	20·8	c
	18	10 3 26	A.C.	—3	18·47	0·00	9·5378	— 4 52·7	0·0	0·0	0·6452	2	10 11	22·06	60 26	31·7	d
	18	10 14 46	D.	—3	16·95	0·00	9·5519	— 5 10·4	0·0	0·0	0·6558	3	10 11	23·58	60 26	14·0	d
	18	10 51 51	J.	—3	11·51	0·00	9·5899	— 7 5·8	—0·1	0·0	0·6916	3	10 11	29·02	60 24	18·5	d
	21	9 24 33	H.	—0	52·49	0·00	9·4852	+22 38·9	+0·1	0·0	0·5666	3	10 24	59·34	57 27	9·2	e
	21	9 56 31	"	+1	42·81	0·00	9·5383	— 0 56·6	0·0	0·0	0·6016	6	10 25	6·26	57 26	3·5	f
	21	9 56 31	"	—1	25·00	0·00	9·5383	— 3 42·4	0·0	0·0	0·6016	6	10 25	5·81	57 26	4·4	g
	23	9 30 42	A.C.	—0	7·83	0·00	9·5040	+14 28·4	0·0	0·0	0·5491	3	...	...	...	...	h
	23	9 38 56	"	—1	40·12	0·00	9·5181	—14 30·9	0·0	0·0	0·5589	3	...	...	...	...	i

Greenwich Mean Solar Time.			Observer.	★—*R.A.	Corr. for Refraction.	Log factor of Parallax.	★—*N.P.D.	Corr. for Refraction.	Log factor of Parallax.	No. of Comps.	Apparent R.A.			Apparent N.P.D.		Comp. Star.	
d	h	m	s	m	s	s	'	"			h	m	s	°	'	"	j
1894. May	24	9	22	39	B.	0.00	— 2 26.7	— 0.1	0.5285	6	10	37	1.93	55	7	17.3	j
	24	9	27	25	"	0.00	+ 11 19.5	0.0	0.5346	2	10	37	2.53	55	7	16.4	k
	27	10	8	45	A.C.	0.00	— 0 4.2	0.0	0.5641	3	10	47	51.75	53	16	40.8	l
	29	13	27	51	B.	+ 0.05	— 13 30.5	— 0.8	0.8020	3	10	54	48.71	52	13	15.6	m
	30	10	32	31	A.C.	0.00	+ 3 7.8	0.0	0.5825	2	10	57	32.07	51	49	53.6	n
	30	10	39	9	"	0.00	— 4 27.2	0.0	0.5920	1	...	...	...	...	...	...	o
	31	9	41	25	B.	0.00	— 0 6.5	0.0	0.4991	3	11	0	27.07	51	26	4.3	p
	31	9	59	16	C.D.	0.00	— 0 16.6	0.0	0.5274	6	11	0	29.60	51	25	54.2	p
June	2	9	46	59	B.	0.00	— 3 51.7	0.0	0.4992	3	...	...	...	...	...	...	q
	2	9	55	46	"	0.00	+ 5 2.6	0.0	0.5133	3	11	6	15.12	50	41	41.7	r

Notes.

The observations are corrected for refraction, but not for parallax. They are also corrected for the error of inclination of the wires, and for the motion of the comet.

May 12.—Comet and stars faint, owing to milky sky.

May 21.—The three comparisons with star *e* are not considered good observations. Comet brilliant, approximately circular, elongated on the preceding side; nucleus.

The initials D., H., A.C., B., C.D., J., are those of Mr. Dyson, Mr. Hollis, Mr. Crommelin, Mr. Bryant, Mr. Davidson, and Mr. Johns respectively.

Comparison Stars.

Star's Name.	R.A., 1894. h m s	N.P.D., 1894°	Authority.
a. B.D. + 20°, 2367	9 37 29	69 39'4"	Bonn Observations, vol. iv.
b. B.D. + 20°, 2365	9 36 38	69 32 59'0	Bonn Observations, vol. vi.
c. W.B. (2) X., 47	10 5 34'04	61 38 1'1	Paris Catalogue, 1875.
d. W.B. (2) X., 246	10 14 39'07	60 31 28'7	Paris Catalogue, 1860 and 1875, and Cambridge Ast. Gesell. Zones.
e. 33 Leonis Minoris	10 25 50'28	57 4 35'3	Greenwich Catalogues, 1864, 1872, 1880, and Observations, 1893, 1894, Paris, 1875, Glasgow, 1890.
f. W.B. (2) X., 417, 418	10 23 21'92	57 27 5'2	Leiden Ast. Gesell. Zones, 287, 288.
g. W.B. (2) X., 480	10 26 29'26	57 29 51'7	Leiden Ast. Gesell. Zones, 169, 281.
h. B.D. + 34°, 2146	10 33 21'0	55 35'8	Bonn Observations, vol. iv.
i. B.D. + 34°, 2149	10 34 53'6	56 5'2	Bonn Observations, vol. iv.
j. W.B. (2) X., 682, 683	10 35 58'71	55 9 49'5	Leiden Zones, 170, 284, and Lund Zones, 188, 192.
k. W.B. (2) X., 719	10 37 32'77	54 56 2'3	Lund Ast. Gesell. Zones, I, 163.
l. W.B. (2) X., 949	10 48 56'90	53 16 50'5	Lund Ast. Gesell. Zones, 188, 192, and Bonn Observations, vol. vi.
m. B.D. + 37°, 2146	10 56 14'84	52 26 52'4	Lund Ast. Gesell. Zones, 195, 198, and Bonn Observations, vol. vi.
n. B.D. + 38°, 2203	10 53 38'25	51 46 51'7	Lund Ast. Gesell. Zones, 174, 176.
o. B.D. + 38°, 2204	10 54 9'9	51 55'1	Bonn Observations, vol. iv.
p. W.B. (2) X., 1216, 1217	11 2 30'27	51 26 16'5	Lund Ast. Gesell. Zones, 174, 176.
q. B.D. + 39°, 2426	11 4 27'2	50 47'1	Bonn Observations, vol. iv.
r. B.D. + 39°, 2430	11 9 56'12	50 36 44'7	Lund Ast. Gesell. Zones, 168, 172.

Comparison star *d* was also used as a comparison star for Denning's Comet on March 31 last. It is a singular coincidence, and worthy of note, that the same star should be (quite accidentally) selected for two different comets at an interval of less than two months.

Royal Observatory, Greenwich:
1894 June 7.

Note on Comet Gale (b 1894). By Walter F. Gale.

The following elements have been computed by the Rev. Thomas Roseby, LL.D., of this city, from Mr. Tebbutt's observations of April 3, 6, and 12 :

T	1894 April 13.757 G.M.T.	
π	$170^{\circ} 32' 31''.6$	} Mean Equinox 1894.0.
δ	$206^{\circ} 14' 23''.8$	
i	$87^{\circ} 16' 15''.3$	
log q	9.99349	
Motion direct.		

The deduced middle place closely agrees with observation, the differences being

$$\begin{array}{rcl} C-O \, d\lambda \cos \beta & - & 0''.88 \\ & d\beta & + 7.3 \end{array}$$

The comet became visible to the naked eye on April 7, and on the 25th reached the 4th magnitude. At no time, however, was the tail exhibited to unassisted vision.

It may be worthy of record that on April 2 the tail was 1° long, very faint, and narrow. It increased in brightness until, on the 12th, it was approximately 2° long and $1'$ wide, the diameter of the coma being $12'$. On the 15th, when next observed, the tail had entirely disappeared—a change certainly not due to parallax. The comet remained a circular nebulosity, with considerable condensation, until the 20th, when a diffused extension was visible, which subsequently appeared as an ill-defined tail $40'$ in length.

Paddington, Sydney, N.S.W. :
1894 May 1.